

Attachment 7
Sampling and Analytical Methods for the Building Sampling Program

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Type of Location	Locations	Samples to be collected	Number of Locations
Accessible areas are defined as areas in which exposures of residents or office workers readily occur	<p>i) area or wall-to-wall carpeting. locations include, in an order of most to least preferred location (on the basis of exposure considerations): 1) in the main entrance used for access and egress from the building; 2) carpet in the secondary, less heavily used entrance to the unit; 3) carpet in the center of the most frequently used play area for children under the age of six; and 4) carpet in an acknowledged or evident route of high traffic flow (i.e., stairs, hallway, etc.);</p> <p>ii) kitchen tiled floor, hardwood floors, or hard floors of other surfaces types (lamine, e.g.);</p> <p>iii) draperies/curtains in the living room, which is the primary location if unit is a residence, and then draperies/curtains in other rooms of the unit;</p> <p>iv) the wall at hand level for a resident child, or adult where no children occupy the unit;</p> <p>v) the wall adjacent to the head of the bed in a child's bedroom, or in the adult bedroom where no children occupy the unit;</p> <p>vi) kitchen counter tops;</p> <p>vii) table or desk tops</p> <p>viii) upholstered furniture.</p> <p>ix) window sills</p>	1 microvac, 1 PAH wipe, 1 Metal Wipe at each location sampled	scaled to floor area as follows: <1000sf = 3 locations, >1000 <5000sf =5locations, >5000sf =7 locations, >10000sf =10 locations
Infrequently	i) the trough of a window sill;	1 microvac, 1 PAH wipe, 1	scaled to floor area as

Accessed areas are defined as areas in which dust may accumulate but which cause infrequent exposure of residents or office workers	<p>ii) the top of vent ducts, or hot water pipes;</p> <p>iii) on top, beneath or behind large appliances or objects of furniture such as beds, chests, refrigerators, upright freezers, built in file cabinets or bookcases;</p>	Metal Wipe at each location sampled	follows: <1000sf = 3 locations, >1000 <5000sf =5locations, >5000sf =7 locations, >10000sf = 10 locations
Rarely accessed areas are defined as areas in which dust may accumulate but which rarely cause exposure to residents or office workers	<p>i) beneath or behind rarely moved objects such as wall units and heavy appliances such as, dishwashers and stoves;</p> <p>ii) in corners of closets or similar small areas rarely accessed or cleaned;</p> <p>iii) above suspended ceilings.</p>	1 composite HEPA of all locations sampled	scaled to floor area as follows: <1000sf = 3 locations, >1000 <5000sf =5 locations, >5000sf =7 locations, >10000sf only one composite regardless of area
HVAC	Inlets that are facing Ground Zero are preferred. Samples will not be taken in an outdoor air inlet where an extraordinary effort is required, such as when the air inlet is located in a location that would require scaffolding or hoists for access;	1 composite HEPA of all inlets sampled	assume 1 per bldg
	Filter	1 Bulk Sample	assume 1 per bldg
	Sample of ducting, air mixing plenums or other spaces serving sampled floors. The location should be accessible and should be in a central location between sampled units. If possible, samplers should seek out locations near outlets that are also near bends and turns within the plenum.	1 composite HEPA of all locations sampled	assume 1 per bldg
	All HVAC outlets in units discharging to locations where wipe or microvac (for measurement of COPCs) samples are taken.	1 composite HEPA of all locations sampled	assume 1 per bldg
Common Spaces Ambient Sampling	Ambient air sample sets for asbestos, MMVF, PAH and Lead in common areas on floors where unit samples have been collected	Set = minimum of three each asbestos/MMVF, PAH and Lead in each common space sampled	assume 5 sets of samples per bldg, scaled as follows: small spaces, less than 160 square feet, 3 samples sets will be collected, spaces greater than

			160 square feet and less than 25,000 square feet 5 samples will be collected, spaces greater than 25,000 square feet, 1 sample will be collected for each 5,000 square feet.
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II. Analytical Parameters for Each Sample

Sample	Analytical Parameters	Sampling Method	Description	Analytical Method	Benchmarks
Metal Wipe	Lead	HUD Appendix 13.1	Wipe Samples.	SW-846 6010C	Accessible loading 40 µg/ft ² Infrequently Accessed loading 400µg/ft ²
PAH Wipe	PAHs	ASTM D 6661-01	Wipe Samples.	ASTM 6661-01/SW-846 8270D	Accessible loading 150 µg/m ² Infrequently Accessed loading 1.5 mg/m ²
Microvac	Asbestos	ASTM D 5755-95	Microvac sample	ASTM D 5755-95	Accessible loading 5000 structures/cm ² , Infrequently Accessed/HVAC 50000 structures/cm ²
	MMVF	ASTM D 5755-95	Microvac sample	TEM SAED-EDS confirm with SEM-EDS if benchmark is exceeded	Accessible loading 5000 structures/cm ² , Infrequently Accessed/HVAC 50000 structures/cm ²
HEPA and Bulk Samples	Asbestos/MMVF	Bulk	HEPA and HVAC unit filters (collection of bulk dust sample from inaccessible areas, inlets,air filters,mixing plenums and outlets).	PLM NYS 198.1 followed by TEM NYS 198.4	None
	Lead	Bulk	HEPA and HVAC unit filters (collection of bulk dust sample from inaccessible areas, inlets,air filters,mixing plenums and outlets).	SW-846 6010B	None
	PAHs	Bulk	HEPA and HVAC unit filters (collection of bulk dust sample from inaccessible areas, inlets,air filters,mixing plenums and outlets).	SW-846 8270	None
	Signature	Bulk	HEPA and HVAC unit filters (collection of bulk dust sample from inaccessible areas, inlets,air filters,mixing plenums and outlets).	SEM-EDS	None
Common Area Ambient	Asbestos/MMVF	NIOSH 7402 3600 l sample		TEM-SAED-EDS confirm MMVF with SEM-EDS is benchmark is exceeded	.0009 f/cc .01 f/cc

	Lead	NIOSH 7300 3600 l sample		ICP-AES or MS	.7ug/m3
	PAH	NIOSH 5506 3600 l sample		HPLC	.2 ug/m3